

USSN: 10/563,601

Attorney Docket: 2003.005 US

Response to Final Office Action of April 16, 2009

**Amendments to the Claims:**

1. (Previously presented): An isolated amino acid sequence comprising amino acids 17 to 180 of SEQ ID NO: 2.
2. (Previously presented): The sequence according to claim 1, comprising SEQ ID NO 2.
3. (Cancelled)
4. (Previously presented) An isolated nucleic acid that encodes the sequence according to claim 1.
5. (Previously presented): The nucleic acid according to claim 4 comprising SEQ ID NO: 1.
6. (Cancelled)
7. (Previously presented) An isolated cDNA fragment comprising the nucleic acid according to claim 4.
8. (Previously presented): A recombinant DNA molecule comprising the nucleic acid according to claim 4, under the control of a functionally linked promoter.
9. (Previously presented): A live recombinant carrier comprising the nucleic acid according to claim 4.
10. (Previously presented): A host cell comprising the nucleic acid according to claim 4.

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11. (Currently amended): A Babesia canis vaccine comprising

- i) an isolated amino acid sequence comprising amino acids 17 to 233 of SEQ ID NO:2, and
- ii) a pharmaceutically acceptable carrier.

12. (Previously presented): The vaccine according to claim 11, further comprising an adjuvant.

13. (Previously presented): The vaccine according to claim 11, further comprising an additional immunoactive component or a nucleic acid encoding said additional immunoactive component.

14. (Previously presented): The vaccine according to claim 13, wherein said additional immunoactive component or nucleic acid encoding said additional immunoactive component is obtained from an organism selected from the group consisting of *Ehrlichia canis*, *Babesia gibsoni*, *B. vogeli*, *B. rossi*, *Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans* serovar *canicola*, *Leptospira interrogans* serovar *icterohaemorrhagiae*, *Leptospira interrogans* serovar *pomona*, *Leptospira interrogans* serovar *grippotyphosa*, *Leptospira interrogans* serovar *bratislava*, Canine hepatitisvirus, Canine parainfluenzavirus, rabies virus, *Hepatozoon canis* and *Borrelia burgdorferi*.

15. (Previously presented): A vaccine comprising

- i) an antibody against the sequence according to claim 1, and
- ii) a pharmaceutically acceptable carrier.

16 – 18 (Cancelled)

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19. (Previously presented): A diagnostic test for the detection of a nucleic acid associated with an organism of the family Babesiidae, comprising a nucleic acid sequence selected from the group consisting of:

- (i) SEQ ID NO: 1;
- (ii) a fragment of SEQ ID NO: 1 at least 15 nucleotides long; and
- (iii) a nucleic acid that is complementary to (i) or (ii).

20. (Previously presented): A diagnostic test for the detection of antibodies against an organism of the family Babesiidae, comprising the sequence according to claim 1.

21. (Previously presented): A diagnostic test for the detection of antigenic material from an organism of the family Babesiidae, comprising an antibody against the sequence according to claim 1.